

Appendix I: Acronyms and Terms

(also see Dictionary of Geological Terms)

Achondrite	Stony meteorite, lacking chondules. Igneous origin. Relatively rare.
ANSMET	Antarctic Search for Meteorites, funded by U. S. National Science Foundation; led by William Cassidy and Ralph Harvey.
AMN	Antarctic Meteorite Newsletter (issued by JSC, SN2)
ARES	Astromaterials Research and Exploration Science at the Johnson Space Center
“blue ice”	Locations in Antarctic where samples were recovered (appendix IV)
ALHA	Allan Hills
EETA	Elephant Moraine
LEW	Lewis Cliffs
QUE	Queen Alexander Range
Yamato	Yamato mountains
GRV	Grove mountains
BM(NH)	British Museum of Natural History, now The Natural History Museum, London.
Cosmogenic Isotopes	Isotopes produced by interaction of high-energy cosmic-rays with elements in sample.
DaG	Dar al Gani, Libya
deflation	wind erosion area
Dho	Dhofar, Oman
DML	Dark mottled lithology of Zagami meteorite.
DN	Olivine-rich lithology of Zagami, obtained from David New.
druse	A crust or coating of small crystals in a crack or void (see Martinez and Gooding, 1986 for a description of “white-druse”).
dpm	disintegrations per minute
Educational Thin Section Set	JSC, BM(NH) and NIPR all have sets of thin sections of meteorites, with educational pamphlets, for use by educational institutions.
EMP	electron microprobe analysis
ejection age	the sum of the exposure age and terrestrial age, the time since the sample was ejected from Mars

exposure age	The time interval a small body (~1m) spends in space as measured by radionuclides generated by high energy cosmic rays.
fusion crust	thin glass coating found on outer surface of meteorite due to heating by atmospheric entry
genealogy diagram	Diagram that shows the relationship of rock splitting and allocations. The number before the comma is called the generic sample and the number after the comma is the “daughter” split.
HED	Howardite, Eucrite, Diogenite. Large group of apparently related achondrites.
g	gram (also kg = kilogram and mg = miligram etc.)
Ga	1,000,000,000 years
GPa	Giga Pascals (unit of pressure)
IDMS	isotope dilution mass spectroscopy
INAA	instrumental neutron activation analysis
isochron	A constant-time line on a diagram that compares ratios of radioactive isotopes to their stable daughter isotopes.
interstitial	Area between the other major mineral phases.
JSC	Lyndon B. Johnson Space Center, Houston, Texas 77058
Katabatic wind	The wind that blows off of the Antarctic continent.
lherzolite	Two pyroxene rock, plutonic.
Ma	1,000,000 years
Martian meteorite	A meteorite from Mars, a SNC meteorite.
MWG	Meteorite Working Group. U. S. advisory panel to ANSMET/NASA/Smithsonian
magmatic inclusion	small recrystallized glass inclusions usually found in early-formed olivine or chromite crystals (presumably trapped magmatic liquid)
maskelynitization	Shock event that converts plagioclase into isotropic phase.
mesostasis	Fine-grained mineral mass found interstitial to major minerals.
mineralogical mode	the mineral percentages, usually expressed as volume percent
“mineral” separate	An attempt to obtain a concentration of one mineral phase after powdering the rock and using various mechanical means (<i>e.g.</i> heavy liquids for density difference).
nakhrites	clinopyroxenites like Nakhla, Lafayette, Governador Valadares, NWA 817, Y000593
NIPR	National Institute Polar Research, Japan

NWA	North West Africa. Meteorites usually purchased from nomads in Morocco, but probably found in Algeria or even further east in Sahara.
NZ	Normal, basaltic lithology of Zagami.
“orangette”	New term used to distinguish unusual carbonate globules in ALH84001. However, term never caught on.
ophitic	Texture of basaltic rock where pyroxene completely encloses plagioclase and other phases.
PAHs	Polycyclic aromatic hydrocarbons. Organic compounds made up of benzene rings linked together.
Pathfinder	highly successful mission to Martian surface in 1990s
pre-terrestrial	The history of the sample before entry into the Earth’s atmosphere - as judged by location with respect to fusion crust.
plateau age	The age obtained from the $^{39}\text{Ar}/^{40}\text{Ar}$ spectrum as function of release temperature.
“pockets” of glass	The small areas of glass found inside the meteorite specimen.
“pods” of glass	The small unusual glass areas in EETA79001. See figure IX-24.
poikilitic	Texture of igneous rock where small granular crystals are irregularly scattered without common orientation in a larger crystal of another mineral.
ppm	parts per million or micrograms per gram (unit of concentration)
ppb	parts per billion (1 in 1,000,000,000)
Radiogenic Isotopes	Naturally-occurring, radioactive isotopes such as K, Rb, U, Th, Sm that decay at a slow rate to another stable isotope and are used for geological age dating.
REE	rare earth elements (actually not so rare, generally diagnostic)
RNAA	radio-nuclear activation analysis (generally superior to INAA, because of use of internal standard)
“rosette”	A symmetrical growth form, resembling a rose, assumed by an accretionary body. Term often used for barite concretions on Earth.
SaU	Sayh al Uhaymir, Oman
“salts”	Various non-silicate minerals, possibly residual to aqueous solution, found in cracks of Martian meteorites.
SEM	Scanning electron microscope (favored by Dave McKay)
schlieren	Texture where glass, or mineral phases are drawn out in stringers.

SIMS	Secondary Ion Mass Spectroscopy
SNC	Shergotty, Nakhla, Chassigny, a term used in publications before “Martian meteorites.”
Smithsonian	see USNM below
SPB	Shergottite Parent Body = Mars
ST	The mail code for the “Office of the Curator” at JSC.
shergottites	Basalts like Shergotty, Zagami, QUE88516, EETA79001B, NWA 480, NWA 1460, NWA 856, NWA 1068, NWA 1110, Dhofar 378, and perhaps others.
TEM	transmitted electron microscope
terrestrial age	Time interval that meteorite has spent on Earth (for example, can sometimes be determined by determination of carbon 14)
USNM	United States National Museum, also called the Smithsonian Institution. Washington D.C. Specifically, the Department of Mineral Sciences is a great source of research samples.
Viking	Two highly-successful missions to the surface of Mars in 1976.
“whole-rock”	Term used for a small sample (50 mg-2 g) of a rock used to determine the chemical composition of the “whole” specimen. Generally selected to be representative of the “whole”, but, obviously, NOT the whole rock.
XRF	X-ray fluorescence
“Yowza-Yowza”	Term used by 1984 ANSMET team to describe something important. New geological term, not found in Dictionary.